

The Copying Paradox: Why Converging Policies but Diverging Capacities in Eastern European Innovation Systems?

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Abstract: This paper analyzes the development of Eastern European innovation systems since the 1990s by looking at the theoretical and empirical accounts of two discourses that have had a significant impact on the development of innovation systems: innovation policy and public administration and management. We propose a framework for analyzing the development of innovation policies by distinguishing between two concepts – policy and administrative capacity – that are necessary for innovation policy making and implementation. Using the framework we show how the Eastern European innovation systems have because of past legacies and international policy transfers developed a highly specific understanding of innovation policy based on the initial impact of the Washington Consensus policies and later the European Union. We argue that because of the interplay between the principles and policy recommendations of the two international discourses we can see the emergence of a “copying paradox” in Eastern European innovation systems: that is, despite the perception of policy convergence, we can witness a divergence in the policy from the intended results, and as a result can talk about limited and de-contextualized policy-making capacities.

Keywords: administrative capacity, catch-up, innovation policy, Eastern Europe

JEL classifications: O25, O32, O34, O38

1. Introduction

There seems to be an almost decade-long consensus on what the key problems are in innovation systems in Eastern European (EE) countries.² This consensus is shared by a large variety of people and institutions – from social scientists in and outside EE to official statements by the European Commission. In brief, there are two key challenges to the innovation systems in EE countries: first, the mismatch between R&D and education policies on the one hand and industry needs on the other (it can also be called a

high-technology bias); second, the strongly fragmented policy arena where coordination problems are rampant (see for a detailed country overviews, INNO-Policy TrendChart, 2006, 2007; also Radosevic, 2004, 2006; Reid and Peter, 2008). These problems were already partially detected, or their emergence predicted, in the late 1990s (see for instance Radosevic, 1998, 1999) and by the 2000s, they formed the core of the European Commission's message to the new member states regarding what they need to take into account while devising strategic plans for the implementation of the European Union's (EU) structural funding between 2007 and 2013 (for a detailed overview, see Kattel, Reinert and Suurna, 2009). Yet, over the decade, the problems have persisted and seem to get worse. This article sets out to explore why this is so.

We argue that there are two main reasons. First, what we call the copying paradox: EE countries have been policy-takers from the start in the early 1990s; at their core, economic and innovation policies have been copied and taken, first from the Washington Consensus (WC) toolbox and later from the EU. As a result, the innovation policies in EE have been converging with the developed countries' policies. Yet, we aim to show that this convergence in policy is accompanied by the hollowing or non-emergence of the local capacity to analyze and evaluate domestic policy issues because of the de-contextualization of policy-making through the very same convergence. That is, while EE countries are – voluntarily or involuntarily – increasingly copying and transferring policies from developed countries and international organizations, this usually exasperates their problems as local capacity development is thwarted. Thus, there is a copying paradox: the more EE countries are converging on the policy level (the more “mainstream” policies they choose), the lower their actual capacity at development becomes, hence diverging capacities for development.

This paradox is, secondly, significantly enabled and enhanced by what we call path dependencies in the ways innovation systems have developed in EE. More precisely, we aim to show that the timing of when EE economies rejoined global capitalism was highly specific in terms of the policy and academic advice that the new economies and their policy-makers received. In fact, the article shows that in addition to initial timing specifics, also the accession to the EU served as an additional element in certifying earlier developments. There are two key areas in the policy and academic advice that the EE countries received since the early 1990s (and in some cases, already in the 1980s): economic and innovation policy (here discussed as innovation policies – IP) and governance (or public policy and administration – PPA). We argue that in both fields, the early 1990s were a highly particular time in terms of what ideas dominated the respective discourses: in the former, the WC provided the most dominant ideas of how to restructure the economy,

and in the latter, the New Public Management (NPM) provided the most dominant ideas of how to manage democratic polities. While both discourses within and outside EE countries have noticeably evolved during the past 20 years, we aim to show that the initial path determined by these two core ideas (WC and NPM) is still fundamental to EE innovation systems and, perversely, the accession to the EU has in many ways deepened the path dependencies because the capacity for policy development has been thwarted.

In the following section we will develop a theoretical framework for analyzing innovation policy development in catching-up or developing economies that we will be later used in a first attempt for analyzing innovation policy emergence and development in EE countries.

2. Analyzing Innovation Policy Development in Catching-up Economies

Although the paper mainly deals with the developments of innovation policy, it borrows its main conceptual ideas and approaches from the public policy and administration (PPA) discourse to explain the actual development of innovation policy in a specific context, the EE. We believe that at least in the case of policy-making in developing or transition countries this adds value to the analysis in two ways.

First, we start with the working-hypothesis that in much of the theoretical and policy-relevant literature on industrial development and especially on innovation policy, we can witness a rather evident over-generalization or simplification of the role of politics and policy-making. The actual implementation of the proposed “policy” is usually presumed to take place as theorized (e.g., politicians should adopt what is prescribed by theories or ideal types) or explained to be dependent on the administrative capacity of a specific country or region, and consequently, no significant differentiation is made between political choices over policies and the ability to implement policies. We believe that the IP discourse has much to gain from further elaborating on the role of government and governance – especially as the PPA discourse offers a more thorough analytical focus on the issues of policy emulation (see also Reinert, 2007).

Second, PPA literature on its own is mostly concerned with the issues of policy and administrative capacity, that is with how policy decisions are made and implemented and not so much with the theoretical underpinnings of the different policy choices put in front of policy processes.³ Therefore, the PPA discourse in the context of developing and transition states makes a sort of “reversed-presumption” compared to the IP discourse: the PPA discourse does not question the theoretical validity and practical suitability of the dominant discourse on innovation put in front of the policy-making process.

Thus, in essence, both PPA and IP discourses assume that the other has got it “right”, and neither questions the validity of each other’s assumptions: IP discourse assumes the presence of administrative capacity and PPA discourse assumes the presence of valid innovation policy choices and capacities. Thus, while we analyze both discourses in parallel, our dominant approach comes from the PPA discourse. We will show that the analysis of the discourse of PPA will provide us with tools and arguments to explain the resulting path-dependencies in the IP development and policy results; the parallel analysis of discourses will hopefully bring us closer to comprehensively describing and explaining the specific trajectory of IP development in EE countries.

2.1 Concepts and Principles for an Analytical Framework

From the PPA discourse on how policies are generally made and implemented we have distilled three analytical concepts or theoretical principles that can be merged into a coherent theoretical and analytical framework that can be used for comprehensive analysis of a policy field.

Content and Implementation of Policies

Firstly, in order to analyze a particular public policy, one has to look at both the content of the policy (i.e. what is the perception of the main goals and content of innovation policy) and the capacity of actually achieving the results of the policy (i.e. does the institutional capacity of a particular country/context support achieving the defined goals of policy) (see also Painter and Pierre, 2005a; and, for a wider context Pollitt, 2008).

In order to specify the concept of capacity, we distinguish between three concepts where a discussion of the role of the state and public policies is of relevance (based on Painter and Pierre, 2005b: 2-7):

- (1) The broadest concept can be defined as “*state capacity*”, which means achieving appropriate outcomes such as sustainable economic development and welfare (based on values such as legitimacy, accountability, compliance, consent). In essence, IP discourse refers to this level when discussing the issues of administrative capacity or the capacity of the government to implement theoretically sound or ideal-type innovation policies. It can also be viewed as the extent and depth of government involvement in the policy area. The PPA discourse elaborates on this concept by distinguishing two interlinked concepts (each with its own theoretical and analytical approaches) that are both preconditions for the state capacity to emerge.
- (2) “*Policy capacity*” refers to the ability to make intelligent policy choices (based on values such as coherence, public “regardingness”, credibility,

decisiveness, resoluteness); in the context of IP, policy capacity refers to the ability of the political system to decide or compromise on the best approach (what is “*desirable*” and what is “*feasible*”) to innovation and development.⁴

- (3) The level or quality of the policy capacity is dependent on the third concept, namely “*administrative capacity*”, which refers to effective resource management (based on values such as economy, efficiency, responsibility, probity, equity); this capacity refers to the ability of the political system to use its resources for implementing the policy choices that have been made. Administrative and policy capacity have to be seen as interdependent because the institutional memory of a political system that is pivotal for making intelligent policy choices is largely stocked both in institutions of administration and institutions of policy-making.

This kind of analytical differentiation that we have provided has not been an inherent part of developing public policies in transition countries, such as the EE countries. The transition from the communist to the democratic societies has created the overwhelming challenge to look at all of these levels at once and create/reform/develop these capacities. The EE countries have had to reform and restructure their core institutions in parallel with introducing new policies. This has been a recognized task both in the literature on public administration and management (Randma-Liiv, 2009; Agh, 2003; Aslund, 2002; Verheijen, 2003) and in the literature on innovation and development (Radosevic, 2009; Tiits *et al.*, 2008; Török, 2007). We will argue that this has been a considerable challenge precisely because the EE countries have “looked up” to so-called benchmark regions and institutions (the EU, the OECD, World Bank, IMF), and the lessons that the EE countries have been given and what they have themselves taken over (transferred) are rather generalized and de-contextualized. Thus, policy development has not been based on substantive policy learning but often “fast-and-furious” copying of a specific policy discourse. By elaborating on the development of these three levels, the path dependency of the initial choices and their impact of unexpected results will hopefully become explicit. In the context of EE innovation policy development, we will try to track the development of these three levels of capacity since 1990.

The Policy Convergence Approach

As a second core principle that can be used to verify the existence of decontextualization of policies, our analysis utilizes the *policy convergence* approach (see for example Bennett, 1991; Drezner, 2001; Heichel *et al.*, 2005; Knill, 2005). This approach analyzes the possible tendencies towards convergence of national policies in the sense of “development of similar or

even identical policies across countries over time” (Knill, 2005: 1), or “the tendency of societies to grow more alike, to develop similarities in structures, processes, and performances” (Kerr, 1983), or “any increase in the similarity between one or more characteristics of a certain policy (e.g. policy objectives, policy instruments, policy settings) across a given set of political jurisdictions (supranational institutions, states, regions, local authorities) over a given period of time” (Knill, 2005: 5). These processes are perceived to take place due to generic phenomena like globalization, Europeanization, etc.

Policy convergence can be viewed as an umbrella concept for concepts or notions such as *isomorphism*,⁵ *policy transfer*,⁶ and *policy diffusion*⁷ (see Knill, 2005). These concepts, especially policy transfer and policy diffusion, have grown in importance in the context of the transition in EE countries. The different notions exemplify that policy convergence in the form of taking over policies from other contexts and countries can happen in different ways (voluntarily or involuntarily; consciously or more or less unconsciously etc.).

Thus, policy convergence and its related concepts shed light on the analytical levels that can be used for analyzing the convergence trends as summarized in Table 1.

Therefore we can see that there is a distinct difference between focusing on *effects* and *processes* within the context of policy convergence: similar processes may and may not lead to similar effects or outcomes and similar effects may or may not be the result of similar processes or policies with similar characteristics. This differentiation can in our view offer significant explanatory weight in discussing the policy reforms of transition or catching-up countries. In our categorization, *policy diffusion* describes the mediated or managed spread of new policies and ideas that does not reflect conscious or intended learning or transfer from another context. *Policy transfer* on the other

Table 1: Overview of Policy Convergence⁸

	Policy convergence	Isomorphism	Policy transfer	Policy diffusion
Analytical focus	Effects	Effects	Process	Process
Empirical focus	Policy characteristics	Organizational structures	Policy characteristics	Policy characteristics
Dependent variable	Similarity of change	Similarity of change	Transfer content and transfer process	Adoption patterns

Source: Knill (2005).

hand describes a policy-making process that reflects a more conscious analysis of and learning from the experience of other regions and countries.⁹

Historical Institutionalism

Thirdly, we use the toolbox of “historical institutionalism” (see Pierson, 2004) for longitudinal and dynamic tracking of the trajectories of policies and especially for explaining the changes or the persistence of specific models and paths of development. The starting point of this approach is the claim that “the policy choices made when an institution is being formed, or when policy is initiated, will have continuing and largely determinate influence over the policy far into the future” (Peters 2005: 71). Therefore, we talk about “*path-dependencies*” in institutional development and in public policy-making. Yet, this has to be seen as a tendency and not a rule of thumb, meaning that if the prevalence of path dependencies would be a universal phenomenon, it would be futile to use this approach for assessing possibilities for fundamental transformations and changes of institutions and policies (Pollitt, 2008). Therefore, we use this approach to highlight the instances – *critical junctures* or *punctuations* – where fundamental changes in institutions and policies have or could have taken place, i.e. the instances where the tendencies towards path-dependency are potentially superseded by other factors. Also, we will use the approach to argue that by looking at the historical development trajectory of the IP from the perspective of EE since its emergence (beginning of the 1990s), we can see that the changes of policy in essence reflect perceptually significant, but still within the path changes – *cycles/alternations* – of the policy. Therefore, the lens of “historical institutionalism” provides both theoretical and analytical arguments to explain why it is possible to witness a “copying paradox”, i.e. contradictory tendencies of both seemingly converging policies and diverging outcomes in policy and policy-making capacity.

Table 2 summarizes our approach to analyzing innovation policy from PPA perspective. To put it into the context of “typical” innovation policy analysis, our approach looks at the level of how innovation systems¹⁰ are governed and managed.

In the following section we will analyze the *effects level* convergence of the innovation policy in EE – that is, we will provide a stylized description of the innovation policy development in EE and indicate how it has resulted in the “copying paradox”. This will be followed by a discussion that will provide a tentative causal argument on how innovation policy emerged and developed from specific discourses of IP and PPA that were largely based on *process level* convergence into policy models. We will discuss our findings in the historical-institutional framework to highlight how the discursive convergence of IP and PPA since the 1990s has locked the EE policies into a distinct path

Table 2: The Levels and Nature of Analysis of Innovation Policy from the Public Policy and Administration Perspective

	Effects level	Process level
Unit of analysis	Policies implemented, their impact on the real economy and innovation system	Public discourses and policy choices in and around innovation system
Patterns of analysis	Levels of capacity (state, policy and administrative)	Levels of convergence (discursive and process)
Results of analysis	Tracing the changes in capacities (increasing, decreasing; contextualized, de-contextualized) and innovation systems	Identification of critical junctures and path dependencies

Source: Authors.

of development (the path dependency) that is becoming increasingly more difficult to break from.

3. Evolution of Innovation Policy in Eastern Europe since the 1990s

From the existing scientific and policy analytical literature, we can distil two fundamental problems that have persisted in the innovation systems of EE countries for a decade if not longer.¹¹ First, in most EE countries, there is a long-standing and strong mismatch between R&D and education system outcomes and industry needs. This mismatch has in turn two mutually enforcing aspects: on the one hand, innovation policies in EE tend to focus on high technology (for instance, commercialization of R&D results, technology parks, incubators, etc.); on the other hand, the actual economic and industrial structure is characterized by low productivity growth and is dominated by outsourcing activities with very low demand for R&D or indeed for most outcomes targeted by innovation policies. Second, in most EE countries, innovation policies suffer from double fragmentation: on the one hand, there is a strong fragmentation and divide between various actors in the innovation system (universities, companies and governments); on the other hand, also within the public sector, fragmentation between various policy areas (education, industry, energy, etc.) is strong. Such a double fragmentation leads to massive and systematic coordination failures in policy design, implementation and evaluation. Clearly, the two challenges stem from different discourses (innovation vs. administration) but are connected and enforce each other. In this section, however, we intend to show how

these challenges originate from the application of the WC policy toolbox to EE economies and while the EU recognized and emphasized these problems throughout the accession process and during the establishment of management systems for implementing EU's structural funding (the main vehicle for achieving economic restructuring and convergence) in the 2000s, the EU's influence has, perversely, enforced or even deepened these challenges.

We also show below that the "original sin" that led to the long-standing and systemic problems in EE innovation systems was misunderstanding the nature of the Soviet R&D system and industry. This misunderstanding, as we will show in the next section, was largely caused by the timing of the EE countries' re-entry into the global economy, and later we will argue that policies based on this misunderstanding can be seen as the "critical juncture" in creating the specific path-dependency in the innovation policy development in EE.

3.1 Restructuring the Soviet R&D System and Industry

At the end of the 1980s, EE and former Soviet economies were generally highly industrialized, and many of these economies were seemingly on a path of industrialization and growth similar to that of the East Asian economies. According to World Bank data, countries like Estonia, Latvia and Hungary were ahead of Korea in the early 1980s in terms of industrial value added per capita (World Bank, 2009). However, the industrialization of EE countries was widely understood to be highly artificial and ineffective, in other words using excessive amounts of resources and other inputs to produce goods. Thus, after regaining independence, restructuring the economy and in particular, the industry was on top of the agenda for all EE countries. In fact, in many ways what was desired was not so much industrial restructuring but a more radical and comprehensive replacement of the old Soviet industry with one similar to the Western industries.

Washington Consensus policies, coming to full articulation and force around the same time, i.e. the late 1980s and early 1990s, offered a very coherent and relatively simple set of policies to deliver the restructuring and replacement. Rodrik (2006: 978) and, also Williamson (2002) offer an interesting summary of what the WC originally was ("Original Washington Consensus") and how it changed during the 1990s into an augmented version ("Augmented Washington Consensus"). For EE countries, only the original version and understanding has been of relevance as the economic restructuring was centred first of all on issues such as setting up basic legislation (from property rights to tax regimes) liberalization, deregulation, and decentralization (including privatization). There was much less emphasis and explicit prioritization of issues reflected in the augmented version of the

WC, i.e. issues of both public and private governance (from corruption to corporate governance) and social policies (from labour market flexibility to poverty reduction). Critics of the WC policies have largely argued that it can not be a sustainable option to have the former without the latter.

Even though all EE countries set out to implement WC-inspired reforms (see Radosevic, 2009), Drahokoupil (2007: 90) offers a very interesting way of how to group different strategies followed by EE countries in the 1990s: “The competition states in the Visegrád four¹² can be called Porterian, aiming at attracting strategic FDI through targeted subsidies.... The Baltic competition states can be called macroeconomic stability-driven neoliberal states with monetary institutions at their core.... Finally, Slovenia has developed a distinct type of competition state, which can be characterized as a balanced neo-corporatist.” However, as Weissenbacher (2007: 71) argues, Hungary, Poland and Yugoslavia had experiences of dealing with IMF already during the 1980s when they borrowed from it and applied standard austerity programs. Thus, while there are clear differences in accents, the general framework offered by WC was applied in all EE countries throughout the 1990s and indeed the policy sets were converging during the 1990s (Drahokoupil, 2007).

Furthermore, WC-inspired policies were equated by most EE countries with innovation and industrial policy measures and in essence there were no other policy initiatives during the 1990s that could be defined as conscious innovation and industrial policies. During this period, almost all of the economic policy capacity building was directed towards macro-economic competencies (at central banks, ministries of finance, also think tanks). This was greatly helped by the advice and assistance from the Washington institutions such as the World Bank and IMF, but also from OECD. Innovation policy was considered secondary to transition-related concerns (Mickiewicz and Radosevic, 2001: 10). As there were no innovation policies proper, there was also essentially no institution building for or in the innovation systems. WC-inspired policies were understood to deliver economic stability to attract foreign direct investments that were to become vehicles of delivering actual restructuring and replacement of Soviet industry. In other words, market demand was understood to deliver economic restructuring and along with it create also a need and direction for innovation-system reform (R&D, education systems, labour policy, etc.). Capacity building in specific areas of innovation systems seemed superfluous; indeed, the R&D system was seen in many ways as too big (employing too many people) and ineffective (too far from the private sector) (Radosevic, 1998, 1999 offer good overviews).

Thus, market discipline in the form of WC-inspired policies replaced actual capacity building; the market was seen as the producer of priorities. Indeed, this is perhaps the most important feature of WC in general: it

presupposed that all development problems are fundamentally alike (be it in Africa or Russia). It took away the burden of domestic capacity building and evaluation and replaced it with a set of universal policies. This is the direct opposite of the previous development consensus. As Hirschman (1958), one of the classical development economists argues, all development presupposes some form of priority setting through policy making. The WC did away exactly with this assumption: since all development problems are assumed to be of the same nature, the solutions are bound to be the same as well, and this takes the burden of proof, so to say, away from domestic policy-making (see furthermore Kattel, Kregel and Reinert, 2009).

However, it can be argued that for EE countries, the WC-based policies also created a relatively strong legitimization for newly written constitutions and laws and for the policy process based on these. Precisely because the impetus of reform came from outside, these reforms were somewhat safer from being questioned than home-grown initiatives would have been. At the same time, the legitimacy of the state or the understanding of the *state capacity* was highly reflective of the WC ideas resulting in no-policy policies in innovation and industrial policy areas.

In reality, the WC policies were effective in destroying the old industrial structure. After the fall of the Berlin Wall, most EE and other former Soviet economies saw deep dives in their growth rates and industry as well as in the value added of the service sector. It took more than a decade for most EE countries to reach the growth and development levels of 1990 (see furthermore Tiits *et al.*, 2008). This is particularly so in the case of former Soviet republics. According to the World Bank's (2006) calculations, the recession many former Soviet republics (e.g. Ukraine) experienced during the 1990s, and are still experiencing, is worse than the Great Depression in the USA and World War II in Western Europe (in both cases, recovery was considerably quicker).

This cognitive dissonance between promise of reforms and actual developments was caused by one of the most striking features of post-Soviet development in the 1990s: the rapid primitivization of industrial enterprises or even the outright destruction of many previously well-known and successful companies. This happened because of the way Soviet industrial companies were built up and run in a complex web of planning and competition (Radosevic, 1998). A sudden opening of the markets and the abolition of capital controls made these industrial companies extremely vulnerable. The partially extreme vertical integration that was the norm in such companies meant that if one part of the value chain ran into problems due to the rapid liberalization, it easily brought down the entire chain or complex. However, foreign companies seeking to privatize plants were almost always interested in only part of the value-chain (a specific production plant, infrastructure or location), and thus

privatization turned into the publicly led attrition of companies and jobs (see for example, Frost and Weinstein, 1998; Young, 1994).

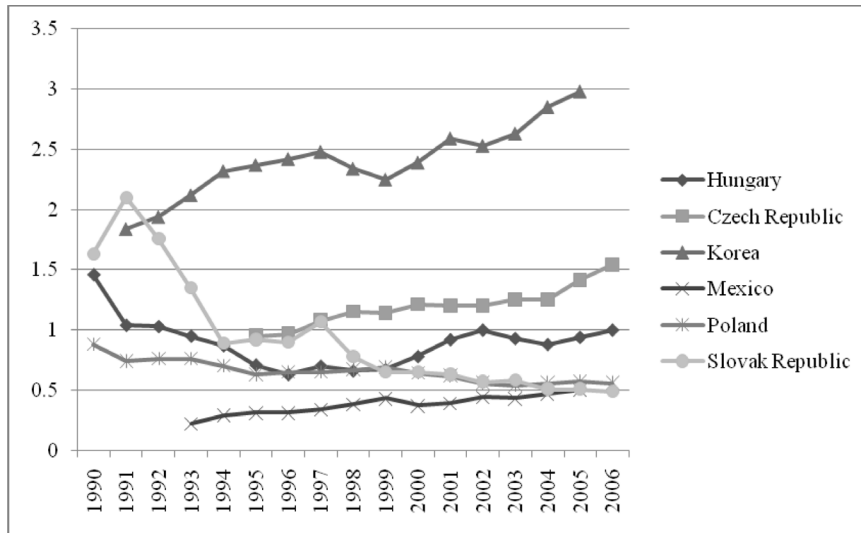
Such a drastic change made it relatively easy to actually *replace* Soviet industry. With the macroeconomic stability and liberalization of markets, followed by a rapid drop in wages, many former Soviet economies became increasingly attractive as privatization targets and outsourcing of production. Indeed, one of the most fundamental characteristics of EE industry (and services) since 1990 has been that the majority of companies have engaged in process innovation (i.e. in the form of acquiring new machinery and mastering production capabilities) in seeking to become more and more cost-effective in the new market place (Tiits *et al.*, 2008).

Perversely mirroring the above-described “cluster”-like characteristic of Soviet industrial activities, the Soviet R&D system was based on similar vertical integration of R&D into specialized institutions: “Under socialism, most technical change was pushed from one institutional sector... which was essentially a grouping of R&D institutes and other related activities.... This sector involved in activities far beyond R&D including design, engineering and often trouble-shooting activities” (Radosevic, 1999: 282). These institutions were usually also the originators and carriers of patents and forms of intellectual property rights (Radosevic, 1999: 285). This means that the Soviet-style R&D system had a very low level of company in-house R&D (Radosevic, 1998: 80-81). Industrial conglomerates were effectively cut off from various potential learning and feedback loops; production and actual innovation (in particular in the form of new products and processes) took place in different institutions, both however highly concentrated and integrated. Thus, in general, the system was highly linear and supply-based.

The once complex engineering, designing or similar tasks were very rapidly replaced in the transition processes by significantly simpler commodified support activities as many companies were wiped out, privatized or restructured. The former R&D institutes could have played a key role in bridging academic research with industry needs as they were essentially the only existing link between the two. With the collapse of the institute system, the link between academy and industry became, as Radosevic suspected in 1998, the weakest link in the EE R&D system. Indeed, in “conditions of high uncertainty and prolonged privatization, the intangible assets and know-how of industrial institutes, primarily embodied in R&D groups, probably erodes much faster than production skills in industry” (Radosevic, 1998: 100).

The massive onslaught of FDI, in particular since the second half of the 1990s, and the privatization of enterprises gave foreign enterprises a key role in industrial restructuring and innovation. This, in turn, only reinforced the severing of linkages between former R&D institutes and the enterprise sector (see Radosevic, 1999: 297).

Figure 1: General Expenditure on Research and Development as % of GDP, 1990-2006.



Source: OECD database.

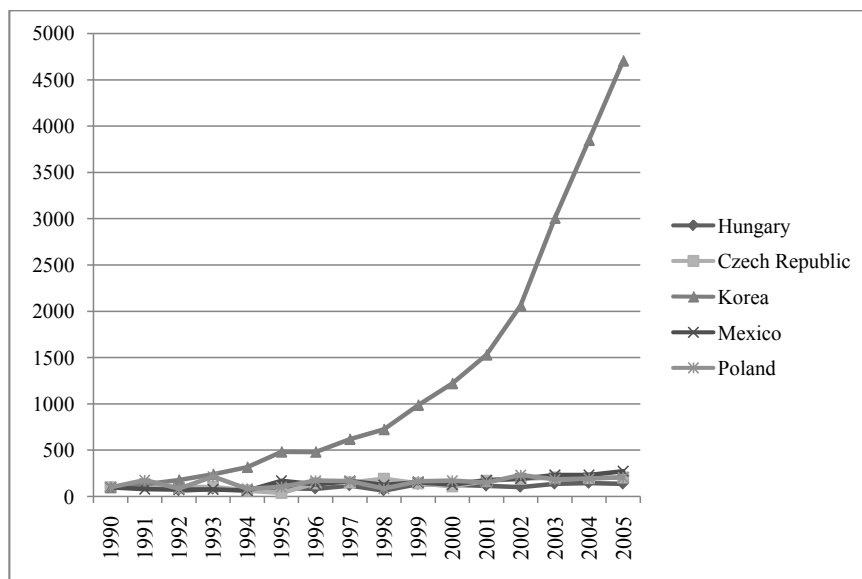
In particular when compared to East Asia's developments over the same period, EE transition in the 1990s is in many ways a lost decade in terms of basic R&D indicators. In Figures 1-4, South Korea is used as a proxy for East Asian countries and Mexico for Latin America.¹³ The figures show that EE countries converge with Latin American trends and not with East Asian ones.

The decrease in GERD from 1990 onwards until the end of the decade coincides, as we will show below, with the big divide in EE innovation policies. With the beginning of the accession negotiations and increasing funding from the EU, EE countries' investments into R&D started to increase while the preceding decade mirrors the ideas of WC policies that market initiatives (also in form of R&D investments) are more important and efficient than public sector intervention.

Figures 2 and 3 indicate very similar tendencies in patent applications and scientific publications in EE compared to East Asia and Latin America. While EE and Latin America are more or less flat-lining since 1990 or 1985 respectively, South Korea's development is qualitatively highly different.

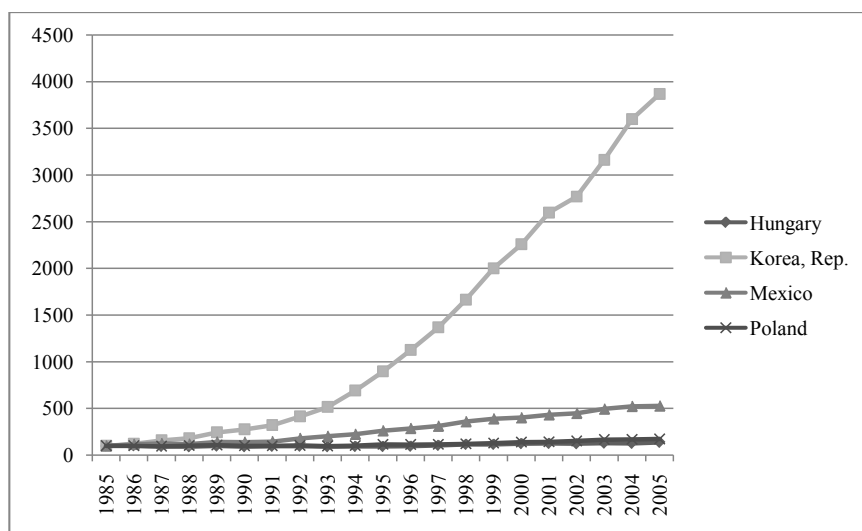
Against this background, the significance of the rapid increase in high technology exports in EE countries becomes clearer (Figure 4). In high technology exports, EE and Latin America clearly follow the same path as East Asian economies.

Figure 2: Patent Application at European, US and Japanese Patent Offices, 1990-2005; 1990=100



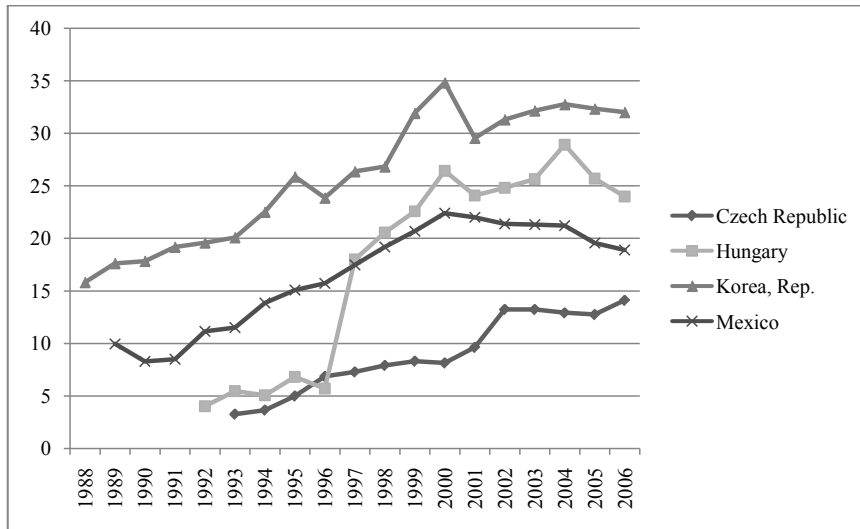
Source: OECD database.

Figure 3: Scientific and Technical Articles, 1985-2005; 1985=100.



Source: World Bank WDI Online database.

Figure 4: High Technology Exports as % of All Manufactured Exports, 1988-2006



Source: World Bank WDI Online database.

The dissonance between the disintegrating R&D system, the much slower pace of catching up and rapidly growing high tech exports is perhaps the best indicator of how importantly the change in the global production networks and in particular the rise of outsourcing production altered the perception of what is happening in EE countries. While exports indicate a high growth in high technology areas, all other indicators show that this is largely an illusion based on a deception created by growth in outsourcing activities. What is statistically captured as a high technology product may in reality be very different in nature: it can be touch screens for iPhones or it can be assembled mobile phones for any brand mobile producer. Both show up as high technology statistics, yet the former is a product at the beginning of its life cycle and the latter has clearly reached maturity. Consequently, even if high technology exports have been growing in EE, this does not mean that we deal with similarly dynamic sectors with significantly increasing returns (see Krugman, 2008). However, this deceptive picture created an image of EE countries as quickly catching up with developed countries and also that this catching up is based on high-tech exports. Consequently, in the next section we will show how in the 2000s the EE set out to focus on the innovation policy in intensifying the R&D content of exports and that with the help of the EU.

In Table 3 at the end of this chapter we have comparatively summarized how these misinterpretations can be seen to have affected policy-level thinking

on innovation and economic development and how this can be interpreted in the context of our framework.

3.2 Europeanization of Innovation Policy in Eastern Europe since 1998¹⁴

While the EU's importance for EE countries' economic policies was visible already during the early 1990s, the change that increased the EU's impact considerably was the beginning of accession talks with most EE countries in 1998 and later. Indeed, Havlik *et al.* (2001) argue that the adoption of the EU's *acquis communautaire* has had a much stronger impact on the modernization of EE industry than official (often rudimentary) innovation policy during the 1990s. The introduction of new regulations (usually with significantly higher safety, health and other standards) meant that EE industry "was forced to choose whether to modernize their products and production facilities rather drastically, to subject themselves to mergers with bigger players with greater economies of scale, or to close down altogether" (see Tiits *et al.*, 2008: 76-77). In essence, on the one hand, the harmonization process was a continuation of restructuring processes that started during the previous period and were even significantly enforced. On the other hand, through so-called pre-structural funding and its management, many EE countries started to develop the first strategic documents and policies related to innovation and R&D proper. In this context, as we will show, the matters of administrative capacity became even more explicit and dominant of the policy discourse.

However, similar to WC-inspired reforms in the 1990s, the harmonization process was seen largely as a further legitimization of EE's path. Thus, the end itself – accession to the EU – became much more important than what was being harmonized and how. Due to considerable self-imposed time pressure – harmonizing the legal infrastructure and preparing for accession in six years – the adoption of the EU's legal infrastructure was done hastily and without much attention to the local context (PHARE Consolidated Summary Report, 2004, 2007; see also Goetz, 2001; Schimmelfennig and Sedelmeier, 2004). Much of the harmonization was carried out through financial instruments (i.e. the PHARE funding and later pre-structural funding and since 2004 structural funding schemes that finance policy instruments geared towards structural and economic convergence) that were based on EU-imposed policy logic and explicit emphasis on the need to create sufficient administrative capacity inside the EE.

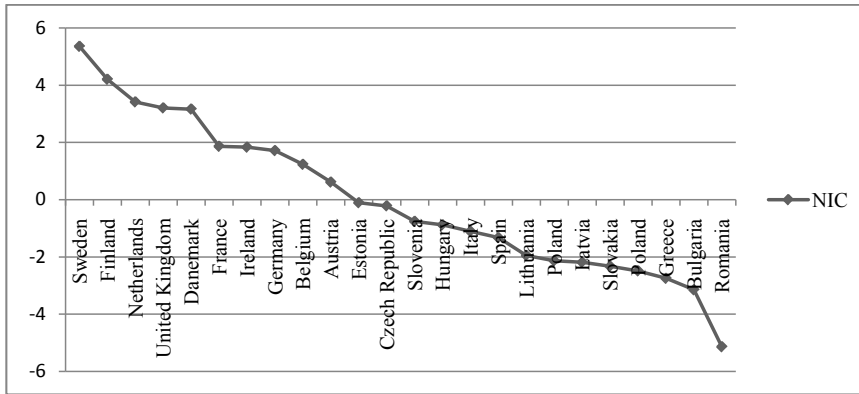
In the late 1990s, the EU-led managerial reforms of the financing mechanisms brought about a system of implementation agencies (administrative agents) linked to the National Funds in EE (EC Regulation 1266/99; Commission Decision on the Review of the PHARE Guidelines for the period 2000-2006; Grabbe, 2006: 82). This marks the first step in EE towards

explicitly managing economic policy, and thus innovation and industrial restructuring, in a manner distinctly different from the previous period where the free market and external forces were seen as key drivers of change. However, it is also important to see that these newly established agencies were created by the EU initiative and are mostly for managing external (EU) funding; policy creation and respective capacity building plays almost no conscious role in these agencies. The compartmentalized and structured nature of EU support (PHARE Consolidated Summary Report, 2007) on the one hand, and the lack of a tradition of partnership and inter-institutional coordination and cooperation between administrative levels inherited from the 1990s on the other hand, meant that most positive effects of such agencies were not reaped and that in some cases, they created more difficulties and problems than they solved (IRS, 2005).

The core argument behind this managerial reform was the perception that the problem with the existing administrative structure in EE was its path-dependent inefficiency (i.e. ministries were part of the old “corrupt” Soviet system) that could have been solved through agents independent both from past legacies and political intervention (for general theoretical argument of “agencification” (i.e. increased use and creation of regulatory, executive and other types of agencies for regulation, implementation and evaluation of policies), see for example Pollitt *et al.*, 2004; Pollitt, 2005; Christensen and Laegreid, 2005, 2006; Verhoest and Bouckaert, 2005). In essence, the ideal-type model was based on the presumption that an increase of the autonomy of the agents will be accompanied by an increase in control and regulation by the principals (firstly that of the EU and thereafter that of the national political system) to sustain accountability. Yet, the international critique of the “agencification” reforms has always emphasized the fact that even if a certain increase of managerial efficiency is achieved, it can be accompanied by the loss of already existing policy capacity or the ability to create new policy capacities that are required in changing circumstances.¹⁵

In sum, in many ways, the harmonization with the EU rules is a period where policies supported the restructuring of the industry that began in the 1990s under the WC policies; on the other hand, during this period, the EU’s influence on funding and administrative schemes brought with it the creation of novel governance structures that up to today play a key part in innovation policy in EE. Therefore, we can interpret this shift as a continuation of the development of the WC-based state capacity that is largely equated with or seen as sufficient for policy capacity and supplemented with managerial attention to administrative capacity.

However, if we look at what Radosevic calls “*national innovation capacities*”, these were by 2000 clearly underdeveloped in all EE countries compared to the “old” member states (Figure 5; Radosevic, 2004).

Figure 5: National Innovation Capacity (NIC) Index for EU Member States 2000¹⁶

Source: Based on Radosevic (2004).

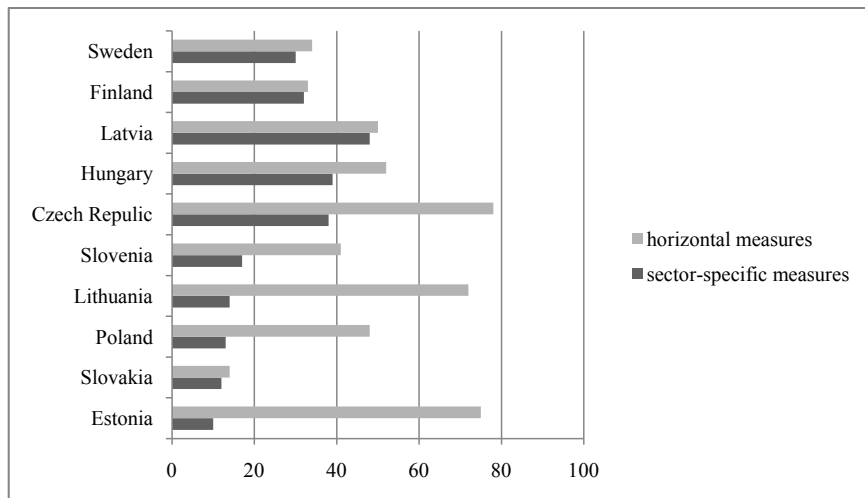
Clearly, the disintegration of the R&D system that began with the transition was still in full force during the harmonization period. And, while it can be argued that by 2000 the EE economies, and in particular their innovation capacities, grouped these countries into two groups of stronger and weaker performers (Radosevic, 2004: 660), most EE economies started to recover from the transition losses by 2000. However, in particular with increasing flows of FDI into EE and growing high technology exports, the recovery was interpreted as imminent catching-up or convergence with the “old” Europe. This misconception became the key driver of innovation policies in EE from 2004 onwards.

While harmonization with the EU legal infrastructure was important both in terms of the actual changes it brought to the industry and in terms of policy implementation and administrative agencies that were created to manage the EU’s financial help, the key changes in innovation of policy proper came with the EU structural funding¹⁷ that started in 2004 and is set to continue at least until 2013. Indeed, as we will see below, the EU structural funding significantly changed both the policy content and implementation. However, as we will also see below, key problems that emerged during the 1990s (low networking, weak coordination and significant cooperation problems) may have in fact deepened or cemented during the current period.

The key content for many innovation policy initiatives in EE emerging after the accession was the underlying assumption that similar to “old” European countries, the new members need to overcome the so-called “*European paradox*” (good basic research, low commercialization of the research results).¹⁸ This is mostly due to the miscued policy transfer from the EU to the member states (see also INNO-Policy TrendChart Country Reports,

2006, 2007). Accordingly, innovation and R&D policies emerging in EE in the mid-2000s were rife with a linear understanding of innovation. Innovation is seen as something close to science and invention, and it is assumed that there is a more or less linear correspondence between scientific discovery and high innovation performance and that innovations behave like Nokia's mobile phones so that the search for the latter became the holy grail of EE innovation policy. Thus, EE innovation policies emerging in the early and mid-2000s tend to concentrate on high technology sectors, on commercializing university research, technology parks for start-ups and similar efforts (Radosevic, 2002: 355; Radosevic and Reid, 2006: 297; also INNO-Policy TrendChart Country Reports, 2006, 2007 for comprehensive overviews of EE countries' policies and challenges). In content, an overwhelming number of policy measures concentrate on innovation programmes and technology platforms (Reid and Peter, 2008). At the same time, the EE emerging innovation policies are characterized by their horizontal nature: policy measures typically do not specify sectors but are rather open to all sectors (see Figure 6). Arguably, this has to do with the way EE policy-makers understood EU state aid regulations (Reid and Peter, 2008). We argue that this has to do with both the general neo-liberal outlook inherited from the 1990s (i.e. market demand is seen as the key driver for the R&D system) internalized by most EE policy-makers by early the 2000s and also their particular skills that concentrated on the macro-economic area (see also Drahokoupil, 2007).

Figure 6: Innovation Policy Measures in EE, Sector-specific Measures vs. Horizontal Measures¹⁹



Source: Based on Reid and Peter (2008).

Figure 6 also shows that EE countries typically have significantly more innovation policy measures than EU15 (especially if deflated by the size of the respective economies). This can be interpreted as a growing fragmentation of the policy arena between a multitude of measures and implementation/administrative agencies.

As the majority of EE measures are financed through EU structural funds, these instruments are mostly competition and project based (i.e. with limited prioritization between different economic activities and industrial sectors; initiated for specific EU funding periods – 2004-2006; 2007-2013 – and considerably revised in between). These aspects – project-based implementation, a multitude of horizontal measures – point to a high fragmentation of the entire innovation policy field as well as to a lack of policy priorities or the ability to set the latter. It is also evidence of the strongly market-driven understanding of innovation that is at odds with the underlying assumption that innovation policies need to alleviate the ‘European paradox’. That is, a typical EE innovation policy measure aims to commercialize a certain R&D result, typically in a high-tech area, but the result and thus the initiative has to come from the market. This, however, has scarcely any justifications in reality: first, EE R&D systems and their performance disintegrated heavily during the 1990s and noticeably fell behind East Asia; and second, this was complemented by the strong specialization into the low-end of various value-chains, meaning that the demand for R&D and skills remains relatively low.

In terms of implementation, the trend initiated during the harmonization period through the creation of financial and management agencies has been intensified with the structural funds (see INNO-Policy TrendChart Country Reports, 2006, 2007 for an overview). It is fair to say that the problems with these agencies that started during the harmonization period have partially deepened since 2004. For example, in the case of Estonia (a country considered to have one of the most advanced Western-based innovation policy systems) it has been recently shown that the agencification of innovation policy implementation structure has resulted in significant fragmentation and duplication of innovation policy instruments (de Jong *et al.*, 2008). This results in confusion over the targets and goals of formally similar measures; thereby increasing the costs and burden of coordination, control and evaluation (impacting both administrative capacity and future policy capacity); and also results in opportunities for rent-seeking and misuse of policy measures. It has also been shown (Ernst and Young, 2009) that this duplication and fragmentation has a significant impact on the capacity of the wider economic policy to reorient or readjust itself in the case of major external shocks, such as the economic crises.

Indeed, it can be argued that most problems summarized above in EE innovation policies go in one way or another back to the institutional framework of policy implementation. Almost all EE innovation policy implementation problems go back to very weak and disorganized actors; coordination problems are rampant in policy design and implementation (see also Radosevic, 2002: 355). On the one hand, there is a clear separation of policy responsibility between education/science and innovation/industry at the ministerial level and its delivery system (Nauwelaers and Reid, 2002: 365; also see INNO-Policy TrendChart Country Reports, 2006, 2007). On the other hand, this kind of fragmented policy-making system has in its turn resulted in the lack of inter-linking and cooperation between different innovation-related activities and actors such as research organizations, government and industry (see INNO-Policy TrendChart Country Reports, 2006, 2007).

While the creation and role of innovation policy agencies is highly praised by the official European Innovation Progress Report (2006: 65), we argue that precisely this agencification is at the root of many EE innovation policy problems. But the problems as such are not so much problems of agencification recognized in the mainstream research in the field (e.g. Pollitt *et al.*, 2004; Pollitt, 2005; Christensen and Laegerid, 2005, 2006; Verhoest and Bouckaert, 2005). We argue that the agencification process has not only brought about the traditional problems of autonomy, coordination, regulation and control between ministries and agents; more importantly, because agencification has emerged in a context of a policy framework driven by market forces, the problem is firstly policy-related and only thereafter managerial. We argue that the no-policy period of innovation policy was based on a lack of policy capacity in innovation policy, and the following period has largely neglected the issue of policy capacity and mainly concentrated on developing administrative capacity. Therefore, even if administrative capacity is increased, the contextual policy capacity as such has been neglected; if one looks beyond the borders of the WC-based state capacity limits (i.e. the *de facto* legitimacy of state policies), it has even decreased. This, of course, is bound to lead to lower administrative capacity as well, even if the latter increased initially with EU structural funding. As fragmentation and coordination problems persist to paralyse the innovation policy arena, administrative capacity will also diminish.

Thus, due to the emphasis on efficiency, the agencification-based innovation policy implementation model favours outsourcing of programme management and is generally highly market-friendly as signals from the market are believed to be the best policy guide (see European Innovation Progress Report, 2006: 65-66). However, many EE countries have seen their economies massively restructured during the 1990s, which resulted, as we saw above, in an economic structure oriented towards outsourcing and low value-

added activities or sectors where networking and linkages are naturally very low. Indeed, agencification in these kinds of circumstances does not foster sustainable networking practices but rather may cause severe problems in policy design and implementation as agencies are by definition at arm's length to government offices. Such tendencies tend to cause instability in a system as a side effect (see here case studies about the old member states by Pollitt *et al.*, 2004). That is why the issue of agencification, particularly in innovation policy, has been heavily raised by OECD in one of its latest reports (2005).

Thus, to sum up, while EE innovation policies are significantly changing since the mid-2000s with the introduction of structural funds and through a strong influence from the European Commission, there are also serious problems that emerged with this trend. First, as we argued, the emerging innovation policies tend to be based on a rather linear understanding of innovation (from lab to market) whereas most EE countries are specialized in low-end production activities virtually void of any research and with low demand for high skills. In addition, the R&D system as such has been under constant pressure since the transition, and its performance has clearly been lacking. Thus, EE innovation policies tend to solve problems not existing in the respective economies, and in this context, the problem of misunderstanding the Soviet R&D and industry in the 1990s is replicated in the policy-making model of the 2000s.

Second, through the creation of innovation policy implementation/administrative agencies the innovation policy landscape is fragmented and previous problems in policy creation (lack of strategic skills and capacity, networking and coordination non-existent) and implementation (competitive grant-based programming that relies on market signals without being able to follow set priorities and goals) have only deepened. One can argue that the innovation policies emerging in the process of Europeanization are based on the assumption that policy design and implementation follow the public-private partnership model, yet in reality EE countries singularly lack the ability to implement such a model, and what is more, actual developments in industry seem to suggest that such a model is particularly ill-fitted to the EE context. Therefore, instead of emphasizing policy capacity as the centre of the innovation policy-making, the 2000s have limited themselves to policy transfer with attention mainly to administrative capacity.

To sum up the periods of "Restructuring" and "Europeanization", we can draw a comparative table that depicts how innovation policy, capacity and their effects evolved in the last two decades in EE economies (Table 3). This table is a snapshot of what we mean with copying paradox: EE countries increasingly adopt policies that imitate the developed countries' innovation policies, yet this very process seems to hollow out local policy and administrative capacity creation and development.

Table 3: Evolution of Innovation Policy, Capacity and Effects in EE, 1990-2009

	Washington Consensus	Europeanization
Key innovation policy characteristics	No-policy policy; FDI and increased competition; private sector main R&D provider; economic restructuring as source of innovation.	Overcoming the “European paradox”: commercializing research; horizontal and demand-oriented R&D policies.
Key capacity characteristics	<ul style="list-style-type: none"> – Relatively strong state capacity as WC-inspired policies offered legitimacy to new initiatives and policies; – This was accompanied by weak to non-existent policy capacity development; EE countries act as policy-takers and adopt massively from the WC toolbox; – Policy networking, coordination and cooperation were almost completely ignored; – Policy capacity and administrative capacity development were substituted by market reforms – market demand was seen as key driver of changes in industry and innovation system. 	<ul style="list-style-type: none"> – Relatively strong state capacity development as EU-inspired policies offer legitimacy to new initiatives and policies; – Growth of implementation agencies seemingly enhances administrative capacity; however, this happens at the expense of an ever-weakening policy capacity to analyse domestic situation and generate policy responses and in fact a weakened administrative capacity as well; – Policy networking, coordination and cooperation were almost completely ignored; – Policy capacity and administrative capacity development were substituted by market reforms as market demand was seen as key driver of changes in industry and innovation system.
Key effects of policy	<ul style="list-style-type: none"> – Productivity increases through slashing liabilities and employment; – Replacement of products and machinery; – Foreign ownership provides key access to management and marketing know-how and production networks; – Modularity and outsourcing in production. 	<ul style="list-style-type: none"> – Contract work for European companies; – Process innovations prevail through cost-cutting initiatives, new machinery; – Marketing and brand creation for home markets in certain industries (media, food);

Source: Authors.

4. Why has the “Copying Paradox” Persisted?

In the previous section we provided stylized facts based argument that there are strong path dependencies in how innovation policy evolved in EE countries. In this section, we explain that these path dependencies originate from the particular timing of the EE countries’ re-entry into global capitalism when the discursive (*process level*) debate in both economic development and catching-up and policies was carried on, even partly ideological, by a movement that was inevitably proposed to and taken over by the EE policy communities.

From our preceding analysis, we can bring out three claims that we have explicitly or implicitly made about the development of the IP trajectory in EE:

- The 1990s period of innovation policy was inevitably a no-policy policy period because of the role of the WC policies;
- Instead of an emphasis on developing policy capacity for a transition state, the combination of IP and PPA discourses resulted in an over-emphasis on administrative reforms and development that was perceived to positively affect the emergence of policy capacity;
- Despite the peculiar but noticeable capacity (and legitimacy) of the state in IP and the development of administrative capacity, the expected policy outcomes have not emerged, and de-contextualized policy-making through policy transfer has remained the dominant policy mode.

4.1 Why Confusion in Diffusion?

Previously we argued that the EE countries had introduced innovation policy proper only during the periods of EU harmonization and accession, and the 1990s were largely the domain of no-policy innovation policy. We argue that in fact the no-policy policy period together with the WC macro-economic policy model can be viewed as an approach to innovation, catching-up and industrial development that has depended on market forces, and therefore the lack of innovation (and in some cases industrial) policy during the 1990s in EE countries has been a conscious or inevitable result of the diffusion of the macro-economic stabilization policy to the domain of innovation policy. Therefore, we call the period “*confusion in diffusion*”.

In brief, it can all be linked to the universal acceptance of the WC policies as the model for achieving macro-economic stabilization. Yet, as has been argued in this paper and elsewhere (Tiits *et al.*, 2008; Török, 2007) the EE countries faced a two-level economic policy challenge: macro-economic stabilization and industrial restructuring. As the WC policies were solely concerned with the former, the EE countries faced a policy lacuna due to the

lack of a model that would accommodate both the needs of the latter challenge and be in line with the WC stabilization policies.

Thus, the common vision of the reformers (both local and international) was to follow a rather clear idea that past Soviet legacies (both in policy and in policy-making) were largely detrimental and inefficient at achieving fundamental socio-economic turnarounds. Therefore, it can be said that the EE started with a clear understanding of what was not desirable (i.e. a strong role of the past communist state institutions), and though we have argued that during that period relatively strong state capacity emerged, it was strongly constrained by the WC principles. This made it inevitably obvious for the industrial restructuring to be based on a similar mode of policy thinking, i.e. relying on the market forces to sort-out the industrial challenges. This is what we call *policy diffusion*: the spread of the WC policy, which is primarily a macro-economic stabilization policy, to the IP discourse, too.

We believe that the uniqueness of the period, more precisely the lack of explicit innovation policy discourse for the EE countries, comes from the particular moment of time in the development of the “mainstream” industrial and innovation policy discourses that could have been used as a basis for more conscious policy transfer or policy modelling for the EE countries.

We can see that at the end of the 1980s and the beginning of the 1990s (for a detailed historical account, see Soete, 2007; for an analysis of concept/discourse on development, see Sharif, 2006) the international/Western discourse was facing a rather significant shift in understanding and approaching technological and industrial development. Namely, during the 1970s and 1980s, there was a shift in emphasis of *industrial policy* from low-tech to high-tech industries. This was followed by the emergence and development of *innovation policy*, which has moved towards the “*systems of innovation*” approach and offers more systematic policy views by looking both at the innovating firms and their external environment. This can be interpreted as a path-dependent or cumulative development of the policy discourse in more developed European countries. Discussions over systems of innovation in the context of developing countries have only been a much more recent phenomenon (see Lundvall *et al.*, 2009).

Thus, the developed world itself was largely facing a huge challenge to rethink policies and models for economic growth and technological advance. At least part of it can be attributed to the techno-economic paradigm shift (see Perez, 2002, 2007) that brought about new policy challenges as modularity in production processes (e.g. possibilities for outsourcing, etc.) changed the context of growth and development. Above, we have argued that the lack of attention to this issue at the catching-up context has been one of the main policy challenges in EE as well. Furthermore, the spread of the WC policies implied that it was against the idea of the general discourse of

the economic restructuring to consider industrial policy (“picking winners” requires considerable policy capacity) as a policy tool that could be taken from the past experience of the developed Western economies (see also Radosevic, 2009).

In sum, we have argued that the innovation policy measures of EE have lacked the ability to tackle the core challenges of the respective systems of innovations. These challenges are largely issues that the developed countries had been dealing or accommodating with already through industrial policy, and the innovation policy as such can be viewed as a redefinition of industrial policy through re-prioritization or a shift in emphasis, but not a shift in understanding what the underlying mechanisms of innovation are.

Thus, the emergence of the period of “diffusion in confusion” can be explained from the point of innovation discourse through several factors:

- The transition process or catching-up of the EE countries was largely foreign-led, i.e. the ideas or “best-practice” policy examples came from the Western countries;
- The general discourse of innovation and development was passing through a rather significant transformation;
- This created a situation where on the one hand, the discourse was dealing extensively with the issues of innovation and innovation policy (as a next level after industrial policy), but it did not pay attention to the developing country challenges;
- The EE countries had a past experience with seemingly inefficient industrial policy because of weak state, policy and administrative capacity;
- The WC discourse offered a suitable context and therefore became a substitute for innovation policy.

4.2 Why the Over-emphasis on Distinct Model of Administrative Capacity?

It can be stated that in the beginning of the 1990s the EE countries were facing a complexity of similar challenges from the perspective of the PPA discourse as they were facing in IP. Similar to economic policy, it was all about restructuring. The EE countries were facing a double challenge – to create basic institutions and to reform the state administration to free it from the “shackles” of communist bureaucracy and past inefficiencies (Randma-Liiv, 2009; Agh, 2003; Verheijen, 2003). Therefore, the challenge could be interpreted as re-establishing a belief in the state, and increasing policy and administrative capacity. As in IP, it all had to be done in the context of the international discourse development facing ideological and policy turmoil.

Pollitt (2001, 2002) has argued that much of the Western public administration debate has converged around the concept of “*New Public Management*” denoting a specific model of public administration based on private-sector management principles (for more detailed accounts and discussions, see Osborne and Gaebler, 1992; Pollitt and Bouckaert, 2004; Drechsler, 2005). The NPM movement has filled the public administration and policy arena with concepts such as privatization, quasi-markets, performance management, specialization, delegation, agencification, contracting-out, etc. But this convergence around the concept of NPM has to be understood as a discursive or talk level convergence because there is a rather convincing lack of empirical evidence of the positive impact of the reforms.

Thus, the last three decades of administrative development in Western democracies have been characterized by a theoretical and ideological battle between institutional, organizational and sociological theories and approaches that have highlighted the specificity of the public sphere and the theories from mainstream economics (public choice models, etc.) that have argued against the specificity of the public sector (for classics, see Osborne and Gaebler, 1992; Mintzberg, 1996; for empirics, see Pollitt and Bouckaert, 2004). Because of the dominance of the neoclassical economics in the discussions of the content of economic policy (at least as prescribed for the EE countries through the WC), it has also been easier to legitimize (on the discursive level) administrative theories and approaches based on similar theoretical assumptions in the PPA discourse – Reagan and Thatcher are highlighted as the most influential public figures leading the debates both in economic policy and public administration reforms (see for example, Williamson, 2000; Pollitt and Bouckaert, 2004). This argument has also been explicitly pronounced in the context of the EE countries, especially as it is in line with both theoretical and ideological premises of the WC.

In principle, there can be a similar argument made from two sides. The WC economic policies were particularly market-friendly and argued that the EE governments should contract out and give as much as possible for the market forces to sort out. The NPM movement was based on the public choice school of thought that, on the one hand, prescribed policies that similarly assumed the primacy of the market (i.e. a limited role for the government in the spheres where the market does function), and on the other hand, prescribed managerial principles based on the same private-sector management techniques. Therefore, it is rather obvious that these discourses have the theoretical and rhetorical arguments to support each other’s claims and to offer remedies for each other in policy-making and implementation.

In the EE-innovation-policy context, we have argued that the no-policy period was followed by a rather explicit increase in the role of the government and the state, though as providing only incentives for the market forces to

sort out policy challenges. We have also highlighted that the governmental interventions, as prescribed by the EU, were largely based on the idea of creating new “legacy-free” administrative agencies for implementing innovation policy.

Interestingly, looking at the public IP discourse at the level of OECD (2005, 2009) and Box (2009), it can be seen that the debate on the pros and cons of agencification in the implementation of IP may not only be a misinterpretation of the context of EE development, but a wider problem of the lacking ability to absorb the empirical experiences of agencification that can be found in the PPA discourse. That is, the extensive mapping of the innovation systems by OECD (2005) recognizes the coordination, control and accountability problems of agencies (classical problems in principal-agent relationship), but the policy recommendations rely on the need to further clarify the role-divisions between ministries (policy) and agencies (implementation), with the latter also given increasing autonomy and lead in policy discourse (see also OECD, 2009). Yet, the agency research in PPA discourse highlights this as one of the fundamental and in essence practically unsolvable issues of agencification, or even as detrimental to the state and policy capacity if achieved because of the erosion of democratic accountability and policy capacity. Thus, the solutions to the perceived problem seem to be misinterpreted and would lead to deeper problems.

Thus, in the context of EE, it can be argued that the NPM movement, along with its concepts such as agencification, has largely shifted from the international context where the main challenge has been first and foremost to increase the efficiency of the public management system, to the context where the primary concern has been to create or increase the effectiveness of the government policies and the state. In our analytical distinction, the tools for increasing *administrative capacity* have largely been equated to tools for increasing *policy and state capacity*. But this can be seen as looking at fundamentally contradictory goals with the same glasses – managerial efficiency and effectiveness is about organizing and managing resources necessary for policy implementation (in essence, cost-efficiency); policy efficiency and effectiveness is about creating and maintaining capacities necessary for designing proper policies (in essence, investments in the future). The reforms of the managerial capacities in the framework of NPM-like principles have been proven to be the likely cause of the reduction of policy capacities.

4.3 Why Then is Innovation Policy Still “Lost in Transfer”?

We have argued that in the context of the EE countries and their innovation policy development, the period of “confusion in diffusion” has been followed by an explicit emphasis on innovation policy that has been based on,

firstly, misunderstanding the problems of innovation in EE and, secondly, misinterpreting the policy problem as merely a managerial issue. As the 1990s in EE were infused with the public-choice discourse both in terms of the content of innovation policy and the context of innovation policy-making and implementation, the influence of the EU at the end of the 1990s was largely based upon the same policy context: the EE countries had lacked a conscious emphasis on developing policy analysis and policy development skills; and because of the lack of innovation policy proper, these capacities and skills did not have any incentive to emerge in the process. Therefore, the conscious attempts at innovation policy development were also foreign-led, more specifically based on the ideas and models proposed by the EU. Thus, the development of innovation policy for EE was largely based on the discourse of the innovation policy that limits the attention due to the contextual characteristics of the EE. And these have been lost in the context of policy transfer.

The recent “stock-taking” on innovation policy development by OECD (Box, 2009: 2) summarizes the development of the innovation policy discourse as follows:

The stocktaking highlights that much work, both theoretical and empirical, has already been done to identify the policies, institutions and framework conditions that can provide the most effective means of supporting innovation. However, evaluation of specific government support policies and their impacts on innovation is generally sparse and there is a need for more and better evidence on the costs and benefits of government support for innovation.

Therefore, the current discourse lacks evidence of the convergence of results; that is, there is no clear-cut evidence of the best policy, even in the context of developed countries. As the same assessment further highlights (Box, 2009: 14-16), the system of innovations approach provides a generalized model for assessing innovation policies in different systems. The policy mix to solve the challenges of the system has to be mostly context-dependent because “there are major national differences in comparative and competitive advantages, implying potentially different patterns of response to similar policy instrument”. Thus, we can also conclude that despite discursive and formal decisional convergence in innovation policy debates, we cannot presume and also lack in-depth evidence that there is convergence in actions, i.e. that generic policy measures that seem to have similar labels in different countries carry identical content across contexts. Rather, there seems to be more weight to the argument that universalistic policy discourse and formal decisions are facing contextual feasibility and desirability challenges once implemented in specific systems, or countries.

We believe that herein lays the reason why the rather positive vision of EE innovation policy mixes that we have discussed and elaborated in section 3 has emerged. Innovation policy proper arrived at the policy-making arena only at the end of the 1990s, by which time the WC-based economic policy and NPM-dominated administrative reform model (i.e., increasing managerial efficiency before policy effectiveness had been created and then secured) had created a discernable path of the state's role in economic development and policies that by most accounts misinterpreted the situation.

Therefore, the innovation policy development since the late 1990s was based on the presumption that chosen policies and paths had been the cause of the success in terms of economic growth and that growth represented a proof of sustainable economic restructuring. This means that, although we could witness a considerable shift in the EE discourse over innovation policy (from no-policy policy to explicit public policy) it was still just an incremental change (or *cyclical alternation*) in the initial policy path because the problems of innovation were seen as merely market-failure problems that can be solved by "non-too-interventionist" policy measures (horizontal innovation policy measures), and policy problems were seen more as administrative capacity problems than policy capacity challenges. From our point of view and according to our analysis, this has created a situation where innovation policy measures have been transferred to the EE countries without a comprehensive policy analysis capacity to truly assess the suitability and also theoretical validity. In this context, policy analysis mostly deals with the analysis of the administrative capacity for implementing ideal-type models designed from other contexts ("*feasibility studies*") and not as much with the analysis of the suitability and contextual applicability of the ideal-models ("*desirability studies*"). The issue of policy capacity has hardly been at the centre of discussion in the context of innovation policy development and implementation since the beginning of the 1990s.

Thus, the "lost in transfer" period can be summarized in several discernible developments:

- External economic forces created a misconception about the impact of the chosen WC path on the economic restructuring and sustainability of growth;
- The emerging innovation policy proper represents only a partial shift within the larger WC trajectory of policy-making;
- The international administrative reform discourse has limited the emphasis on administrative capacity and managerial efficiency, disregarding the interconnections with policy capacity;
- The resulting policy and administrative capacity is largely de-contextualized and therefore lacks the ability for substantive policy analysis.

5. Conclusion

In our paper, we have followed the development of the trajectory of the innovation policy in EE since the beginning of the 1990s, and we have argued that since its emergence as a no-policy in the 1990s, it has been a path-dependent process with changes that at first seem to be fundamental (the changes in 2000s induced by the harmonization process and the EU policy models) but which, if looked at in more detail, are representations of *cycles/alternations* within the limits set by the initial starting point and understanding of the policy challenges.

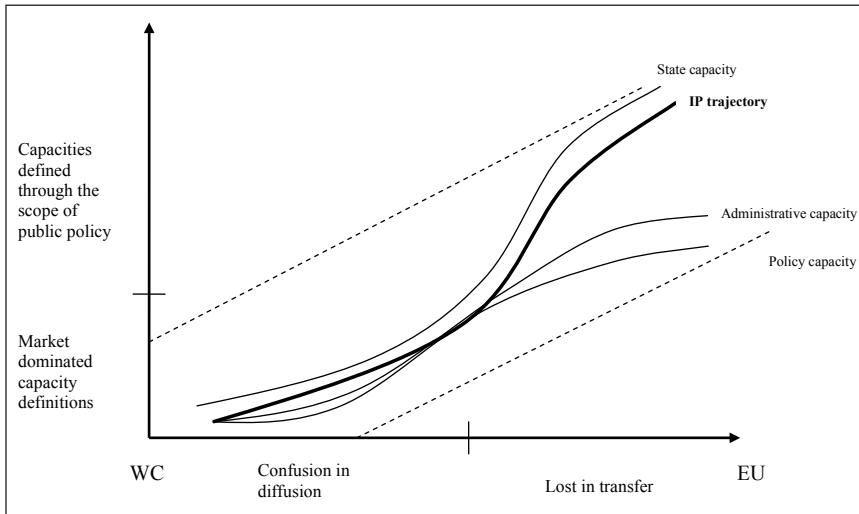
We have argued that within the innovation policy development, we can witness misunderstandings or misconceptions both from the perspective of IP discourse and from the perspective of PPA discourse.

Based on the former, the initial mistake of the 1990s was to misunderstand the nature of Soviet R&D systems and industry. From the perspective of two decades and more, placing this misconception at the centre of the economic and innovation policy can be seen as the *critical juncture* that re-defined the role of the state in industrial and innovation policy from over-involvement of the Soviet era to explicitly market-led and dominated policy models. We have argued that this was mainly caused and reinforced by the peculiar state-capacity definition and state legitimacy that was brought about by the wider WC policy toolbox and that diffused into the IP arena. Later in the 2000s, the same mistake/misconception was redefined into the “European paradox” that was followed by the policy-transfer from the EU toolbox.

Based on the latter discourse, by the end of the no-policy policy that was triggered by external forces such as the EU, the innovation policy problem was seen as an administrative capacity problem that was to be solved by administrative reform. Yet, we have shown that all of this has resulted in the non-emergence of policy capacity that would seem to be pivotal for a contextual analysis of feasible and desirable policies. To date, the role of public policies in innovation has been constrained by the initial WC ideas; i.e. even if the EU toolbox, compared to that of the WC, has increased the legitimacy of state intervention in this policy area, it is still largely based on the primacy of the market forces (policies are horizontal and implemented through market principles). Therefore, the changes of innovation policy at the end of the 1990s and 2000s, both in the content and context of innovation policy trajectories have largely been *cycles or alternations* in the initial policy mode.

This is summarized and graphically sketched in Figure 7. The vertical axis reflects a continuum of definitions of state capacity, i.e. “*capacity defined through market forces*” indicates that the market is a more effective decision tool over the content and context of policies; “*capacity defined through the scope of the public policies*” indicates the opposite or that the market forces

Figure 7: The Path-dependency of the Innovation Policy Development Trajectory in EE



Source: Authors.²⁰

face significant challenges in creating optimal solutions, and the state can either create additional incentives for the market forces or act instead of the market forces. By definition, the latter would presume a stronger and more developed policy and administrative capacity. The horizontal axis is essentially the “time” perspective from the beginning of the 1990s (WC) until the 2000s (EU), but also reflective of the two analytical/ideal types of policies – the “WC policies” and the “EU policies” – and the description of the emergence of these policies (e.g. from “*diffusion in confusion*” to “*lost in transfer*”). The dotted diagonal lines indicate the “*constraints of the policies created by the WC*” – i.e. despite witnessing an increase in government/public policies, we can still argue that these policies are still closer to market-based approaches as opposed to other more state-interventionist policies (setting sectoral preferences and measures, etc.). In addition, the figure contains indicative lines of the development of the innovation policy trajectory and respective capacities to graphically illustrate the contradictions in policy development.

Therefore, the EE countries have largely been moving towards de-contextualization of policy making and have followed a trajectory of development that has made it increasingly difficult firstly to realize the need for fundamental changes and secondly to have the capacity to carry these changes through. Thus we can track the emergence of a peculiar mode of state capacity that paradoxically or actually, characteristically for ex-Soviet countries, over-estimates the power of market forces in the context of economic restructuring,

technological development and innovation (“creative destruction”) and creates what we call the “*copying paradox*”.

We believe that we are also witnessing a modest or even significantly decreasing policy capacity in these countries that does not seem to have been an issue of importance throughout the 1990s and 2000s. As a result, the only recognisable level of substantive development seems to be administrative capacity. But this has resulted in almost extreme complexity: fragmentation of policy measures and implementations means that are detrimental to any policy capacity emergence. Therefore, over the last two decades, the EE countries have misinterpreted their problems, misread their development and misunderstood the international policy arenas from where they are copying policy ideas. The innovation policy of the EE countries has been playing with fire by constantly moving closer to locking itself into the worst possible policy modes – implementing “wrong things” badly or, even worse, implementing “wrong things” well. Paradoxically, the “wrong thing” may just be the over-estimation of the level of development and the adoption of too complex policies. And this is precisely a problem of policy capacity.

Notes

1. Corresponding author. Research for this study was partially supported by the Estonian Science Foundation (grants 6703, 7441, 7577). The authors would like to thank Wolfgang Drechsler and two anonymous referees for useful comments and feedback.
2. In the context of this article, Eastern European countries are the following ten most recent member states of the European Union: Bulgaria, the Czech Republic, Hungary, Estonia, Latvia, Lithuania, Poland, Romania, Slovakia, and Slovenia.
3. We argue that at least in the context of transferring policies from more developed to developing countries, the contextualization of policies through policy analysis is often done through incremental changes within the dominant policy discourse (in our paper WC and NPM). For a similar argument placed into policy transfer literature, i.e. supply and demand based policy transfer, see Randma-Liiv (2005).
4. For instance, the theoretical approach for technological catching-up and development can be divided into several opposing theoretical models, e.g. from neoclassical to Schumpeterian/evolutionary/institutional schools (for a more comprehensive overview see for example Nelson and Winter, 1982). In this context, the ideal-type policy mixes for innovation and catching-up that the EE countries could have considered range from “import substitution”-type policies to WC-based models to post-WC-based/EU-led approaches (for an excellent overview see Radosevic, 2009).
5. *Isomorphism* is defined as a process of homogenization that “forces one unit in a population to resemble other units that face the same set of environmental conditions” (Knill, 2005: 5; DiMaggio and Powell, 1991: 66).

6. *Policy transfer* is a “process by which knowledge about policies, administrative arrangements, institutions and ideas in one political system (past or present) is used in the development of policies, administrative arrangements, institutions and ideas in another political system” (Dolowitz and Marsh, 2000: 5).
7. *Policy diffusion* refers to processes that might result in increasing policy similarities across countries hence leading to policy convergences. Though there are two different approaches to diffusion – it can be either described as the spread of policies independent of causal factors (e.g. it can be both voluntary and coercive) or it can be defined through the voluntary adoption (as opposed to coercive) of different policies. (Knill, 2005: 3) In our paper, we look at diffusion in the more flexible sense allowing it to be caused by a broad range of causal factors.
8. The convergence as such can be divided into four layers that have different implications on policy development and on our understanding of convergence (Pollitt, 2001, 2002): *discursive convergence*, e.g. convergence at the level of talk; *decisional convergence*, e.g. convergence at the level of public decisions over policy, technique, organizational form; *practice convergence*, e.g. convergence on the level of working practices or policy mixes used; *results convergence*, e.g. the level where reforms and policies produce their intended (and unintended) effects so that the outputs and outcomes begin to converge. The former two are more in line with the process-level analysis and the latter two more with the effects-level analysis. The empirical proofs of the policy development both in PPA discourse (for an overview, see Pollitt and Bouckaert, 2004) and IP discourse (for the latest overview, see Box, 2009) are largely limited to the process-level analysis (e.g., analyzing official governmental statements, policy documents, other public declarations, formal decisions and programs, etc.).
9. For a literature review and discussion in the context of developing/transition countries, see Savi (2007).
10. We use innovation systems here in a rather generic meaning as a system of actors and features that determine, in the broadest sense of the word, how and why companies innovate (see Freeman, 1987; Lundvall, 1992; Nelson, 1993).
11. See for detailed country overviews European Commission’s Innovation Trend-Chart (2006, 2007); see also Radosevic (2004, 2006); Reid and Peter (2008); Kattel, Reinert and Suurna (2009). The best research on the EE innovation systems from the late 1990s also covers the earlier transition period; see in particular, Radosevic (1998, 1999).
12. Including the Czech Republic, Hungary, Poland, and Slovakia.
13. The figures include only selected EE countries; the selection is based on data availability.
14. This sub-section builds on Kattel, Reinert and Suurna (2009).
15. For a great theoretical and conceptual analysis in the context of agencification and its impact on specialization and coordination and the eternal dilemmas between these contrasting ideas, see Verhoest and Bouckaert (2005).
16. The index is built from four sub-indices that are in turn based on the following data (in parenthesis): *Absorptive capacity* (Expenditures in education as a % of GDP; S&E graduates as a % of the population between 20-29; Population with 3rd level education; Participation in life-long learning; Employment in medium/high-

- tech manufacturing; Employment in high-tech services); *R&D supply* (Public R&D expenditures as a % of GDP; Business R&D expenditures as a % of GDP; R&D personnel; EPO high-tech patents; USPTO high-tech patents; Resident patents per capita); *Diffusion* (Training enterprises as % of all enterprises; CVT as a % of labour costs of all enterprises; ISO 9000 certificates per capita; Internet users per 10,000 inhabitants; PCs per 100 inhabitants; ICT expenditures as a % of GDP); *Demand* (Stock market capitalisation as a % of GDP; Domestic credit provided by banking sector; Share of FDI in GDP; Share of trade in GDP; Index of patent rights; Registered unemployment) (Radosevic, 2004).
17. For a general overview, see the EU's official homepage for structural funding, http://ec.europa.eu/regional_policy/funds/prord/sf_en.htm.
 18. An excellent discussion of the paradox is Dosi, Llerena and Labini (2005).
 19. Sector-specific are policy instruments that deal with one sector (e.g. biotechnology) only; horizontal measures are allocated to multiple sectors or do not specify any sector at all. See for details Reid and Peter (2008).
 20. The figure is inspired from Pollitt (2008: 51-63).

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